COMMENTS RECEIVED AS OF 12/30/2013

BEFORE THE GOVERNOR'S ENERGY DIRECTOR

COMMENT/REPLY COMMENT INFORMATION FORM

Rulemaking to adopt, amend, or repeal regulations pertaining to Chapter 701 of the Nevada Administrative Code related to the conservation of energy in buildings, including manufactured homes, adoption of 2012 IECC pursuant to Nevada Revised Statutes 701.220.	))))))))

Please complete and submit this form with your written comments:

Date of Filing: 12-3-2013

Method of Filing: [X] **via E-mail** [ ] **U.S. Postal Mail** [ ] **Fax**

Name of Person Commenting: Kevin Landis, PE

Name of Organization ***(if applicable)*****:**

Address: 6630 Surrey St, Las Vegas NV 89119

Phone Number: 702-269-1575

E-mail address: KLandis@HarrisEngineers.com

Would you like to receive future notices? [X] **Yes** [ ] **No**

Note: Submitted comments are part of the public record for the rulemaking and may be posted on the Office of Energy website at energy.nv.gov.

While I fully support efforts to conserve energy, I have the following concerns about the proposed adoption of the 2012 International Energy Conservation Code:

It is not clear exactly what regulations are being adopted. The proposed changes state "The 2012 International Energy Conservation Code and any amendments thereto..." and a reference to "Supplemental materials to the 2012 International Energy Conservation Code...". To date, the ICC has not published any "amendments" to the 2012 IECC. There was a supplement edition of the IECC in 2004, is this what is meant by the term "supplemental materials"?

As of 9-27-2013, the ICC has issued 52 errata to the first printing of the 2012 IECC, 44 errata to the second printing, and 22 errata to the third printing. Many of these errata radically change the stated requirements. There were also 24 errata regarding Table C403.2.3(1) that make no sense, so the real intent of the code is unknown. I know of several additional corrections and clarifications that are needed but have not been issued by the ICC. These include the following:

C402.4.1.2.2 - Correct non-existing reference
C403.2.3.1 - Correct reference for full-load COP
C403.2.7.1 - Provide criteria for 3 in.w.g. pressure class duct
C403.2.10.1 - Clarify meaning of "fan floor horsepower"
C403.3.1 - Clarify meaning of "supply capacity"
C403.4 - Replace deleted requirement for air economizer on complex systems
C406.4 - Correct energy or power units and numerical values

Is it the intent of the State to automatically adopt errata as they are issued by the ICC? Will contractors be liable for construction changes if errata are issued during building construction? Will building design professionals be liable for redesign if errata are issued during design or construction?

When the ICC issues errata they do not replace the previous defective editions, nor do they actively notify their customers that the code has been changed. The users are obligated to routinely check the ICC website for additional corrections and manually transfer these changes to the printed code.

At a minimum, I believe the State should clarify exactly what version of the 2012 IECC is being adopted. The State should also clarify how and when errata, amendments, and supplemental materials will become effective and how notice of such changes will be made to users of the code and other stakeholders.

Ultimately, the actual code requirements must be included in the regulations. Reference to a third party publication does not conform to the Constitution of the State of Nevada, Article 15, Section 8. The constitution requires that "The legislature shall provide for the speedy publication of all statute laws..." and that "all laws...shall be free for publication by any person". Since the IECC is copyrighted by the ICC, I do not believe it is possible to legally meet these constitutional requirements when copyrighted material is adopted by reference. It is not reasonable to require contractors, tradesmen, design professionals, lawyers, developers, building owners, and all other stakeholders to purchase the 2012 IECC from the ICC in order to access the full requirements of this proposed law. It is also not reasonable to assume that only businesses serving the building construction industry would want or need to know the details of energy conservation law in Nevada. This places an expensive and unnecessary barrier between the law and the people subject to it.

Kevin W Landis

Digitally signed by Kevin W Landis
DN: cn=Kevin W Landis, o=Harris Consulting Engineers, ou, email=KLandis@HarrisEngineers.com, c=US
Date: 2013.12.03 07:54:19 -08'00'

BEFORE THE GOVERNOR'S ENERGY DIRECTOR

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Please complete and submit this form with your written comments:

Date of Filing: 12-13-13

Method of Filing: [X] via E-mail [ ] U.S. Postal Mail [ ] Fax

Name of Person Commenting:
Dennis G. Nolan, Deputy Manager, Compliance & Code Enforcement

Name of Organization : Nevada State Public Works Division

Address: 515 East Musser Street, Room 102, Carson City, NV 89701

Phone Number: (775) 684-4135

E-mail address: dgnolan@admin.nv.gov

Would you like to receive future notices? [X] Yes [ ] No

Note: Submitted comments are part of the public record for the rulemaking and may be posted on the Office of Energy website at energy.nv.gov.

Please send to:
Governor's Office of Energy
Attn: Emily H. Nunez
755 North Roop Street, Suite 202
Carson City, NV 89701
Fax: (775) 687-1861
ehnunez@energy.nv.gov

Brian Sandoval
Governor

STATE OF NEVADA
DEPARTMENT OF ADMINISTRATION

Jeff Mohlenkamp
Director

Gustavo Nuñez, P.E.
Administrator

Carson City Offices:

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Carson City, Nevada 89701-4263
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Buildings & Grounds Section
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1830 East Sahara, Suite 204
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2621 E. Sahara Avenue
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(702) 486-4300 Fax (702) 486-4308

December 13, 2013

Ms. Emily Nunez, Management Analyst
Nevada Governor's Office of Energy
755 North Roop Street
Carson City, NV 89701

Subject: Regulation Workshop, December 17, 2013

Dear Ms. Nunez,

The State Public Works Division fully supports the adoption of the 2012 International Energy Conservation Code (IECC) with no amendments.

Should the public hearing process reveal proposals to change or weaken the 2012 IECC, this office requests an amendment to read:

> "All construction on state-owned land shall comply with the 2012 International Energy Code as printed, without exceptions or amendments."

Sincerely,

Dennis G. Nolan, Building Official
Deputy Manager, Compliance and Code Enforcement

Cc: file, GN

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Rulemaking to adopt, amend, or repeal	**)**
regulations pertaining to Chapter 701	**)**
of the Nevada Administrative Code related	**)**
to the conservation of energy in buildings,	**)**
including manufactured homes, adoption	**)**
of 2012 IECC pursuant to Nevada Revised	**)**
Statutes 701.220.	**)**
	)

Please complete and submit this form with your written comments:

Date of Filing: December 16, 2013

Method of Filing: [x] via E-mail [ ] U.S. Postal Mail [ ] Fax

Name of Person Commenting: Jess Traver

Name of Organization *(if applicable)*: Builders Association of Northern Nevada

Address:5484 Reno Corporate Drive, Reno NV 89511

Phone Number: 775-329-4611

E-mail address: jesst@thebuilders.com

Would you like to receive future notices? [x] Yes [ ] No

Note: Submitted comments are part of the public record for the rulemaking and may be posted on the Office of Energy website at energy.nv.gov.

Please send to:
Governor's Office of Energy
Attn: Emily H. Nunez
755 North Roop Street, Suite 202
Carson City, NV 89701
Fax: (775) 687-1861
ehnunez@energy.nv.gov

Emily H. Nunez

From: Jess Traver [jesst@thebuilders.com]
Sent: Monday, December 16, 2013 12:01 PM
To: Emily H. Nunez; Paul Thomsen
Cc: Mike Dillon; Teri Scharosch; Gregory Peek; Jesse Haw; John Schroeder; 'tndl@diloretoreno.com'
Subject: 2012 IECC Adoption Response

Emily H. Nunez
Fiscal Manager
Governor's Office of Energy
755 N. Roop Street, Ste. 202
Carson City, NV 89701

Hi Emily:

The Builders Association of Northern Nevada would like to thank the Governor's Office of Energy in meeting with us to discuss State of Nevada adoption the of the 2012 IECC energy code. As with the adoption of the 2009 IECC, we at the Builders look forward in working with you in a process which we all hope will provide the homeowner with a product that saves the maximum amount energy at an affordable price. Included in this correspondence are comments directed at amendments to accomplish just that.

According to a Home Innovation Research Labs (NAHB associate) study, the increase in construction cost to comply with the 2012 IECC over the 2009 IECC is an average of $5,668 per home and most will take more than 13 years to pay back.

It should come as little surprise if builders tend to oppose attempts to mandate a particular energy feature that their customers won't buy at the current price and payback.

The question that must be in everyone's mind during an adoption process: Would **you**, as a homeowner, be agreeable with the law requiring you to pay $100, $1000 or $5000 more for a product which will have little or no financial return.

The State of Nevada will begin the adoption process for the 2012 International Energy and Conservation Code (IECC) on December 17, 2013 with a workshop in the Governor's Office of Energy at 1 PM.

Tentative schedule to hold a workshop and three (3) regulation hearings to adopt the 2012 IECC by June 2014, with an effective date of July 1, 2015:

Regulation Hearing II – Reno, Thursday, January 9, 2014, 1:00 P.M.
Builders Association of Northern Nevada
5484 Reno Corporate Dr
Reno, NV 89511

The Builders Association of Northern Nevada objective is to work with officials to create an adoptable energy code that is cost effective, easy to enforce and represents the economic realities of the home buyer.

Over the past decade, many advocacy groups, including the U.S. Department of Energy (DOE), have pushed to increase the stringency of the International Energy Conservation Code resulting in changes that are not cost effective and therefore impair practical housing construction.

Because every $1,000 increase in the price of a home keeps about 232,000 potential buyers from qualifying for a mortgage, adopting the 2012 IECC without amendments to reflect sound construction methods with cost savings will impede potential buyers and their families from affording a new, more energy efficient home.

The 2012 IECC has many areas that are not cost effective. For that reason, National Association of Home Builders(NAHB) and others encouraged code amendments during national ICC code hearings to the future 2015 IECC to help fix problems found in the 2012 IECC. These changes represented improvements that increase its design flexibility, improving its cost effectiveness thereby making it more adoptable and enforceable.

Unfortunately, for example, an energy-neutral proposal to allow a builder to get credit in the performance path of the code when installing solar panels was disapproved. Opponents argued that builders could possibly skimp on insulation to save money. The idea that a builder or home owner would spend tens of thousands of dollars on photovoltaic panels to save money on electricity costs and not appropriately insulate is simply ludicrous.

If the energy code is not amended it will continue to restrict the ability of designers and builders to have flexible energy-neutral tools for compliance and will cause roadblocks to the housing market, stifle the slow recovery of the housing industry and ultimately save less energy.

Home buyers care about energy efficiency and are very interested in features of the home that will lower utility bills. This is why The Builders Association of Northern Nevada has been a strong advocate of voluntary energy efficiency programs for builders and remodelers, and worked to implement the ANSI-approved *National Green Building Standard*™.

2009 IECC increased energy advocacy almost 15% over the 2006 (introduced envelope and duct leakage testing and efficient lighting mandates). HVAC equipment efficiency credits (trade-offs) were eliminated in the 2009.

2012 edition further increased advocacy more than 15% over the 2009(higher envelope insulation levels, ACH and duct tightness provisions).

<u>2009 to 2012 major changes:</u>

- Mandatory whole-house leakage testing
- Tighter duct requirements
- Hot water piping insulation on longer runs
- Wall insulation increases in climate zones 3, 4, 6, 7 & 8
- Trade-offs between envelope elements limited
- More stringent window U-value and Solar Heat Gain Coefficient mandates
- Continued penalty for more than 15% glazing to conditioned floor area but no credit for less than 15%
- HVAC equipment efficiency trade-offs eliminated

The Builders Association of Northern Nevada propose amendments to the State of Nevada to include trade-offs that are energy-neutral to the code and allow builders and their customers to make choices based on affordability, marketability, or just plain personal preference.

- Mechanical Equipment Trade-offs - This code change proposal will reinstate the performance option in the International Energy Conservation Code (IECC) to reduce prescriptive energy code requirements by installing HVAC equipment with higher energy efficiency performance ratings than required by the code.
- Duct Leakage Trade-off - This code change proposal will reinstate the performance option in the IECC to reduce prescriptive energy code requirements by installing ducts with less air leakage than required by the code.
- Building Tightness Trade-off - This code change proposal will allow builders to trade improvements in other building energy components for less stringent building envelope pressure test results. This proposed performance option provides flexibility in meeting the air tightness requirements and provides options for recovering from an unexpected air tightness test failure.
- Window Area Trade-off - Currently the un-amended 2012 IECC provides no incentive in the performance path to optimize the window area in order to save energy and provide day lighting, egress and views that makes for a safe and comfortable house. This code change proposal will provide the building designer the ability to reduce window area and get credit for the energy saved.
- Duct Sealing - This proposal allows an alternative duct tightness testing method to be utilized. The proposed change clarifies what distribution system efficiency should be applied to the Standard Referenced Design and how the ducts should be modeled in the performance path.

IF changes to the 2012 IECC are accepted the homeowner and builder:

- Will gain the flexibility to meet efficiency targets using the lowest cost approach
- Energy efficient homes will be more affordable to the homebuyers
- Will have more options for design, material, equipment and systems innovation,
- Potential saves of an average of $1,300 per home

Technical Residential Energy Code Change Proposals

19 Table R405.5.2(1)
Mechanical Equipment Trade-offs. This proposal reinstates the performance option in the International Energy Conservation Code (IECC) to reduce prescriptive requirements by installing HVAC
equipment with higher energy-efficiency performance ratings than required by the code.
05 R402.4.1.3
Building Tightness Trade-off. This proposal allows builders to trade improvements in other building
energy components for less stringent building envelope pressure test results. This performance option provides flexibility in meeting the air tightness requirements and provides options for recovering from
an unexpected air tightness test failure.
06 Table R405.5.2(1)
Window Area Trade-off. Currently the 2012 IECC provides no incentive in the performance path to
optimize the window area in order to save energy and provide day lighting, egress and views that makes for a safe and comfortable house. This code change proposal will provide the building designer

the ability to reduce window area and get credit for the energy saved.

07 R402.4.1.2 & Table R405.5.2(1)

Building Tightness Leakage Rate Correction. The 2012 IECC requires homes to have a leakage rate of no more than three air changes per hour (3 ACH) in climate zones 3-8. The ASHRAE Handbook of Fundamentals shows that less than 10% of homes achieve 3 ACH or less. This proposal modifies the requirement from 3 ACH to 4 ACH, an aggressive tightness level that will provide a tight, comfortable, energy-efficient home for the consumer.

08 403.2.2

Duct Tightness. The proposal simply changes the duct leakage requirements from mandatory to prescriptive, while retaining the testing requirement and duct construction specifications. Changing the duct leakage rate from mandatory to prescriptive will allow builders the option of trading improvements in other building components for less stringent pressure test results or vice versa. This provides flexibility in meeting the requirements and options for recovering from an unexpected test failure.

17 Table R402.1.1

Ceilings Climate Zones 2, 3, 4 & 5. This proposal reinstates the appropriate minimum ceiling R-Value in climate zones 5, to those published in the 2009 IECC. The 2012 IECC values increase construction costs an average of $1,342 per home yet save only $14 per year in energy costs – or a payback of 99 years.

14 Southern Nevada

Walls R Value/U Factor Correction Climate Zone 3. This proposal reinstates the appropriate minimum wall assembly R-Values/U-Factors in Climate Zone 3 published in the 2009 IECC. The 2012 IECC values increased the upfront construction costs an average of $1,199 per home yet only saves $50 a year in energy costs, or an average payback of 24 years.

18 Table R402.1.3

Adjustment of U-Factor Calculations. This proposal is intended to correct the conversion from RValue to U-Factor without changing stringency. It is important that the U-Factors and R-Values do match when small alterations are being made to the wall assemblies selected in the R-Value table.

09 R403.2.2 & Table R405.5.2(1)

Duct Sealing. This proposal allows an alternative duct-tightness testing method to be used and clarifies what distribution system efficiency should be applied to the Standard Referenced Design and how the ducts should be modeled in the performance path.

10 R403.4.2

Hot Water Pipe Insulation. This proposal limits insulation requirements to ¾" or larger piping, underground or under slab piping, exterior piping, recirculation piping, and from the water heater to the distribution manifold. The amount of energy saved by insulating hot water pipes is very smallroughly $3-7 per year for plastic piping based on a study by the Home Innovation Research Labs, and those results were duplicated by NREL in a 2009 study.

12 Table R402.1.1

Basement R-Value Zone 5. The prescriptive basement wall requirement had increased from R-10 to R-15. The result was energy savings in a 700 square foot basement totaled $7/yr in Reno, NV (Climate zone 5). The additional cost for this is conservatively estimated at $590. This makes the simple payback in excess of 58 years.

The letter below from Congress to the Energy Secretary may be of interest:

Congress of the United States

The Honorable Steven Chu, Secretary, U.S. Department of Energy
1000 Independence A venue SW
Washington, DC 20585

Dear Secretary Chu:

November 30, 2012

We are writing regarding the role of Department of Energy in the development of the International Code Council's (ICC) 2015 edition of the International Energy Conservation Code (IECC), the principal energy code for use in residential construction. We are concerned about the shift in the Code from performance-based regulation to product-specific requirements. This requirement for installation of specific construction materials, such as foam insulation, rather than building efficiency performance will limit design options, consumer choice in construction materials, the participation of certain businesses in building efficiency projects and will ultimately be detrimental to efficiency efforts. We urge the Department to advocate for a more flexible performance-based approach in the development of the 2015 IECC.

It is our understanding that the current 2012 version of the IECC essentially stipulates the use of specific insulating materials for certain parts of the United States. Other systems or products, including wood-based products capable of similar insulating performance, can only be used if complex and more expensive alternative analyses are conducted. In practice, this largely eliminates those alternative materials as a choice. We do not believe that the federal government should be involved in sanctioning a code prescribing one specific product over another to meet a given level of performance, particularly when such prescriptions could be economically problematic for small businesses and consumers.

Similarly, the 2012 IECC no longer recognizes or encourages installation of energy efficient mechanical equipment, such as heating and cooling systems, in meeting energy consumption goals. The use of high-efficiency equipment can provide a cost effective solution to reduce home energy use and achieve code compliance, which helps keep housing affordable and allows builders more options and flexibility to meet energy efficiency standards. Eliminating this ability discourages the use of higher efficiency equipment and the concept of the "house as a system" approach; an approach which is a cornerstone of many state energy programs and the federal Energy Star and other rating programs.

We believe the 2015 IECC code development process should avoid picking marketplace winners and losers. Since it is our understanding that DOE was directly involved in formulating the 2012 product specific standards and is again involved in developing the 2015 code, we ask that DOE work with stakeholders to adopt a performance-based approach.

Thanks Emily....

Jess Traver, P.E.
Director of Government Affairs
Builders Association of Northern Nevada

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Please complete and submit this form with your written comments:

Date of Filing: 12-16-13

Method of Filing: [X] **via E-mail** [ ] **U.S. Postal Mail** [ ] **Fax**

Name of Person Commenting: LEON MILLS

Name of Organization ***(if applicable)*****:** ENERGY INSIGHT

Address: 3335 SLEEPY HOLLOW
RENO, NV 89502

Phone Number: 775.857.1039

E-mail address: ENERGYINSIGHT@NVBELL.NET

Would you like to receive future notices? [X] **Yes** [ ] **No**

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Please send to:
Governor's Office of Energy
Attn: Emily H. Nunez
755 North Roop Street, Suite 202
Carson City, NV 89701
Fax: (775) 687-1861
ehnunez@energy.nv.gov

ENERGY INSIGHT

Promoting Energy Conservation

Emily,

I cannot make this workshop meeting, but I have some concerns that I wish to express. They are related to the pressure testing requirements and mechanical ventilation.

First, from *Section R402.4.1.2 Testing.*

The new requirement for our Climate Zone (5) will now be three (3) air changes per hour for the dwelling. My experience from this last year of performing pressure tests under the 2009 IECC, is that less than 3% of the homes tested to date met the proposed 2012 IECC requirement. A concerted effort to educate the contractors/builders will be needed, possibly a required online course completed before a permit is issued. The average range to date is approximately 4.5 ACH to 5.5 ACH.

Second, from *Section 403.5 Mechanical Ventilation.*

I believe that an amendment should also be adopted to address the Minimum Ventilation requirements as set forth by ASHRAE. It is my belief that houses constructed to the new 2012 Standard will have IAQ (Indoor Air Quality) problems associated with being too tight even though mechanical ventilation is required.

Third, from *Section R403.2.2 Sealing*

The HVAC system(s) will now be required to meet a maximum of 4 cfm per 100 square feet of conditioned floor area (.04 x conditioned SF). Approximately 20% of houses tested to date met the proposed requirement. Again, a concerted effort is needed to educate the builders.

A problem has been though, that many homes are still constructed with HVAC supply outlets under kitchen or bathroom cabinets where they cannot be sealed and therefore the HVAC systems cannot be tested. A requirement should be mandated that the duct systems must be able to be sealed through proper placement of registers, or appropriately sized chases constructed from the under cabinet duct to the back of the toe kick supply register so the system can be sealed and tested.

Thank you.

Leon Mills
Energy Insight
Reno, NV

Jean Mills

12-16-2013

Date

HERS Rater #8475283
BPI #5005994
NV State Auditor #EA0000004